

Appendix A: Methodology for the Assessment and Action Plan

The Cape Cod Watershed Assessment and Action Plan was developed through a public process, with input from state, federal, and local government, non-profit organizations, citizen watershed stewardship groups, and interested citizens from 2000 to 2002. Data collection for the Cape Cod Watershed Assessment began in 2000. The former Watershed Team began contacting citizen water quality monitoring groups, pond and lake associations, and environmental trusts to ask them to supply the team with environmental data specific to their subwatershed or local area.

Outreach to towns to encourage their participation in this planning effort was made through several different avenues. In 2001, the former Watershed Team Leader, in cooperation with the Regional Planning Agency, presented Buildout Analyses to the Boards of Selectmen in each town on Cape Cod. The TL discussed the watershed assessment and action plan project that the team was undertaking and encouraged the towns' participation in the planning process.

In June 2001, a letter was sent to each Board of Selectmen outlining the format of the assessment, the purpose for its development, the benefit of the document to the town, and the way in which the towns could participate in the development of the plan. Draft fact sheets of each of the subwatersheds appropriate to the town were included in the mailing.

Many efforts were made by the former Watershed Team Leader and former Assistant Watershed Team Leader to solicit data for the watershed assessment from team members and interested citizens. Drafts of the assessment were made available to meeting participants at every team meeting between Summer 2001 and Summer 2002 for review, comments, and additions. In March 2002, each of the 47 draft subwatershed fact sheets was given to a team member or participant with specific knowledge of that area, with the request that they review and comment on the fact sheet(s).

Also in March 2002, a draft of the assessment was sent to all former Cape Cod Watershed Team members. Members received either a hard or digital (cd) copy of the assessment, according to their particular request. Drafts were given to the Cape Cod Commission, Mass Bays, the Cape Cod National Seashore, Environmental Protection Agency, The Compact of Cape Conservation Trusts, Massachusetts Coastal Zone Management, Massachusetts Department of Environmental Protection, the former Massachusetts Department of Environmental Management, the Association to Preserve Cape Cod, Massachusetts Division of Marine Fisheries, Massachusetts Office of Technical Assistance, the former Massachusetts Department of Food and Agriculture, and the Natural Resources Conservation Service.

Three team meetings were held in the summer and fall of 2002 that were specifically targeted towards presenting the draft watershed assessment and developing the 5-Year Action Plan. The meetings were held on July 12, September 6, and October 4. At the July 12 meeting, the Draft Cape Cod Watershed Assessment was presented and the development of the Five Year Action Plan was discussed. The former team scheduled

two meetings for the fall to develop actions for the 5 Year Action Plan. The two meetings—one in September in Wellfleet and the other in October in Falmouth—both had the same agenda. The former team hoped that by having similar meetings on both the Upper and Lower Cape, all interested parties on the Cape would be able to attend at least one. A letter from former Secretary Durand was sent in August 2002 to 135 town planners and administrators, conservation trusts, citizen water quality monitoring groups and other local environmental organizations inviting them to attend these meetings to provide their input on environmental priorities for Cape Cod. In order to receive input in advance of the meetings as well as from people who could not attend either meeting, a survey form was included with the mailing asking recipients to list the environmental work they were involved with on the Cape and their perceptions of the greatest areas of environmental need.

In preparation for the July 12 meeting, a Watershed Assessment and Action Plan informational packet was mailed to each state legislator in June 2002. These packets included an outline of the draft watershed assessment, a draft of the 5 Year Action Plan, a two page description of the former watershed team and the assessment and action plan project, a list of team participants, and a CD containing the entire draft watershed assessment.

Action Plan Team Meetings

The environmental actions that form the basis of the 5 Year Action Plan were gathered largely at the September and October 2002 team meetings. Both followed the same agenda. The meetings were organized around six key objectives – manage nutrient loads, reduce bacterial contamination in coastal and fresh waters, protect water supplies, restore and preserve habitats, manage growth, and increase watershed stewardship. Meeting participants were asked to write down their ideas for actions to meet each of these objectives on index cards and stick the cards onto poster boards (one board for each objective). Actions that had been submitted to the former team by means of the Action Plan Surveys and those that had been discussed at team meetings during the past year were already on cards on the boards. Participants then broke into six groups—one group per poster board – and worked to refine the actions listed on the board. The task for each breakout group was to a) prioritize the actions on the cards, b) identify predominant themes, and c) propose one or two projects that would support the implementation of those actions. Each group had a facilitator. The meetings were well attended, with 36 people attending the September meeting and 29 attending the October meeting.

Resulting from these meetings was a list of environmental actions to protect and restore the environment of Cape Cod. These actions were grouped into larger categories (themes), and the predominant themes were identified.

Action Plan Subcommittee

A subcommittee was formed at the fall team meetings to finalize the format of the action plan and develop the scope of the projects.

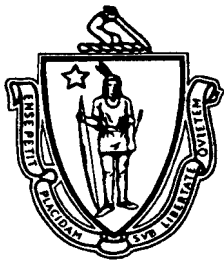
The subcommittee met twice in October and November to finalize the format of the plan and further develop the projects, which included refining project ideas, assigning implementation lead, projecting financial needs, and matching up funding sources to each project.

The final draft of the assessment and action plan was completed in December 2002 and submitted to the former Massachusetts EOEWA Watershed Manager and Policy Coordinator for circulation and review.

Included Documents

The following four documents were used in the former Cape Cod Watershed Team's outreach efforts to increase participation in the development of the assessment and action plan, and are attached to this methodology:

- The letter sent to the Boards of Selectmen in each Cape town in Summer 2001, describing the assessment and inviting their participation in its development.
- The letter from former Secretary Durand, sent to 135 parties in Summer 2002, inviting their participation in the development of the Action Plan.
- Cape Cod Watershed Action Plan Priority Issues Survey included with Secretary Durand's letter and distributed through other means.
- Guidance for Developing the Cape Cod Watershed Assessment and Action Plan sent to planners, administrators, legislators, and interested parties.



The Commonwealth of Massachusetts
Massachusetts Watershed Initiative
Executive Office of Environmental Affairs



Patti Kellogg
Cape Cod & Islands
Watershed Team Leader
P.O. Box 3092
Waquoit, MA 02536
508-457-0648 617-737-

June 26, 2001

«Name»
«Board»
«Address»
«Town», «State» «Zip»

Dear «Name»:

The Massachusetts Executive Office of Environmental Affairs (EOEA) Cape Cod Watershed Team is in the process of compiling a watershed assessment for the entire Cape. This assessment is comprised of two parts: an overview of the natural resource and socioeconomic conditions on the Cape, and a more detailed section containing a fact sheet and two maps for each of the Cape's 47 sub-watersheds. We are seeking your input in this watershed assessment project for the sub-watersheds in your town.

The assessment, once it is completed this fall, will serve several purposes. It will be used by the EOEA to develop a five year action plan, in which priority projects for funding in each town will be identified. The EOEA will then use the action plan to allocate grant monies and EOEA agency resources to priority projects. Another purpose for the assessment is to provide watershed associations and citizen groups on Cape Cod with detailed environmental information about their local area. This could then be used to help plan what environmental projects to focus on in their neighborhoods. Lastly, we are designing the assessment to also be useful as a general public outreach tool. The fact sheets and associated maps can be distributed to residents in each watershed to encourage them to be thinking about natural resource protection and the impacts we all have on the environment.

Enclosed please find a draft fact sheet and two maps for each sub-watershed in your town. There is a lot of data that we still need to fill in on the fact sheets, and we are hoping that you might be able to provide us with some assistance. If you have any suggestions about relevant reports we can look up or contact people in the town offices who could provide us with information to include on the fact sheet, we would appreciate it.

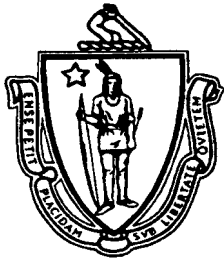
My assistant, Courtney Armentrout, is in charge of compiling this assessment. She can be reached at 508-457-6390. Please contact her if you would like to provide any input into this project. At our next Cape Cod Watershed Team Meeting on September 14 from 10:00 a.m. to noon, we will be reviewing the final draft of the assessment. The meeting will be held at the boathouse of the Waquoit Bay National Estuarine Research Reserve on Route 28 in Falmouth. We invite you to attend this meeting and give feedback at that time as well.

Thank you for your attention to this important project. We look forward to hearing from you or seeing you on September 14.

Sincerely,

Patti Kellogg
Cape Cod & Islands Watershed Team Leader

Enclosures



The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
251 Causeway Street, Suite 900
Boston, MA 02114-2119



August 12, 2002

Dear Friend of the Cape Cod Watershed:

I would like to introduce you to the Cape Cod Watershed Team (the "Team") and the Massachusetts Watershed Initiative (MWI) and request your participation in developing the Watershed Action Plan for Cape Cod.

The Team is comprised of representatives from municipalities, non-profit organizations, state and federal agencies, and citizens. The Team meets on a regular basis to seek solutions to the issues that are affecting the watershed, its ponds, lakes and embayments, and the people who rely on the watershed. The Team was formed under the MWI, a program of the Executive Office of Environmental Affairs. The MWI provides a structure and process by which the most important natural resource issues are identified for each watershed and key protection, restoration, and management actions are developed. Consequently, due to limited time and funding, the efforts of the partners are focused on the most pressing issues and are targeted to the most effective solutions.

As part of this effort, the Team will be developing a watershed action plan this fall that will address drinking water, wastewater management, open space and recreation, and wildlife habitat. The watershed action plan will provide a comprehensive overview of the watershed, prioritize key issues, and most importantly, will serve as the basis for ensuring that state and federal grants and loans, regulatory decision-making, and educational/technical assistance programs are targeted to address the most important environmental problems affecting each watershed. For example, starting this year projects identified in the watershed action plan will be worth 40 points in the evaluation of a State Revolving Loan Fund application.

The Team is seeking a broad range of community partners to participate in the watershed action planning process and collaborate on priority projects. I invite you to participate in one of the meetings to develop the watershed action plan, to be held on the following dates:

Friday, September 6, 2002

10:00 a.m. - 12:00 p.m.
Wellfleet Bay Wildlife Sanctuary
Route 6, Wellfleet, MA
and

Friday, October 4, 2002

10:00 a.m. - 12:00 p.m.
The Boat House at Waquoit Bay National Estuarine Research Reserve
Rt. 28, Falmouth, MA

If you are unable to attend one of these meetings, please fill out the enclosed survey regarding your organization's top environmental priorities and return it to the Cape Cod Watershed Team.

For more information about the watershed team and action plan, please contact Patti Kellogg, Cape Cod Watershed Team Leader, at (508) 457-0648 or by email at patti.kellogg@state.ma.us. You may also request a copy of the Draft Cape Cod Watershed Assessment that provides background information on the Cape Cod Action Plan.

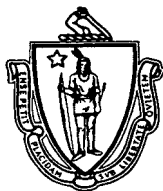
I encourage your input on the watershed action plan. The watershed team approach is the best way for government and community partners to make significant progress in addressing the environmental challenges of the 21st Century. Thank you.

Very truly yours,

A handwritten signature in black ink, appearing to read "Bob Durand". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Bob Durand

Enclosure



The Commonwealth of Massachusetts
Massachusetts Watershed Initiative
Executive Office of Environmental Affairs



Cape Cod Watershed Action Plan Priority Issues Survey

Please take a moment to share your ideas on improving the natural environment of Cape Cod. The information will be used by the Cape Cod Watershed Team to develop the 5-year Cape Cod Watershed Action Plan for EOE. The action plan will be used to prioritize state funding for environmental projects on the Cape.

1) What do you feel are the most important issues (problems) to address for watershed protection?

A. Cape wide -

B. Within your sub-watershed -

2) What actions would you like to see taken to address those issues?

A. Cape wide -

B. Within your sub-watershed -

3) What are the most important actions your organization or municipality is currently undertaking to address watershed protection?

4) What actions is your organization or municipality proposing to address watershed protection?

5) List priorities for water quality or habitat monitoring:

6) List waterbodies that you feel are potential candidates for inclusion on the Massachusetts 303(d) List of Impaired Waterbodies. (Listed waterbodies must have data documenting the impairment):

7) List, in order of priority, embayments for study under the Massachusetts Estuaries Project:

8) Name:

Town:

Address:

Phone:

Email:

(Fold here)

Thank you for your time!

For more information:

If you would like to review a copy of the assessment or action plan, please contact Patti Kellogg, Cape Cod and Islands Watershed Team Leader, at (508) 457-0648, or e-mail patti.kellogg@state.ma.us

For information on the Executive Office of Environmental Affairs and The Massachusetts Watershed Initiative, set web browser at <http://www.state.ma.us/envir/watersheds.htm>

Fold on dotted line
Secure closed with piece of tape

Place
Stamp
Here

Patti Kellogg
Executive Office of Environmental Affairs
P.O. Box 3092
Waquoit, MA 02536



The Commonwealth of Massachusetts
Massachusetts Watershed Initiative
Executive Office of Environmental Affairs
**Guidance for Developing the Cape Cod Watershed
Assessment and Action Plan**



EOEA Watershed Initiative Mission Statement (2002) -

The mission of the MWI is to preserve, protect and restore the water resources and ecosystems of the Commonwealth using watersheds as the geographic unit within which diverse interests collaborate, establish priority actions, influence decisions, and to achieve measurable results.

The environmental goals are:

- Healthy Ecosystems and Biological Diversity
- Clean and Plentiful Water for People and Wildlife
- Protected Open Space
- Shared Responsibility for Watershed Protection and Management

EOEA Cape Cod Watershed Team Vision Statement (1997) -

The Cape Cod watershed team will improve the management of fresh and marine water resources and watersheds on Cape Cod by integrating citizen efforts with coordinated state, Federal and local agency activities.

What is the Cape Cod Watershed Team?

As part of the Massachusetts Executive office of Environmental Affairs' Watershed Initiative, each of the 27 watersheds in Massachusetts has a Watershed Team. Each Watershed Team includes state and federal employees responsible for environmental protection, as well as representatives from local governments and citizen organizations.

Purpose of the Watershed Team:

1. Compile information on pollution sources
2. Expand communication and public education
3. Coordinate water and habitat monitoring and data collection
4. Develop a plan of action to address pollution
5. Work with local groups and municipalities to implement pollution reduction actions, and protect and restore resources.

What is the Cape Cod Watershed Assessment?

The assessment is a compilation of information on pollution sources, water quality and land use data, and recommendations for watershed protection. Information collected in the watershed assessment will be the basis for the action plan.

What is the Cape Cod Watershed Action Plan?

The action plan will identify ways to reduce pollution and remove water bodies from the Massachusetts 303(d) list of impaired waters, protect water resources, and implement TMDL's and other actions to reduce pollution and restore waterbodies. The action plan should be a

focused effort to identify the most critical problems and coordinate resources to achieve measurable improvements. It should target projects that benefit from watershed team collaboration and identify a set of resources and commitments to implement the actions identified in the plan.

What will the Action Plan be used for?

When completed, this plan will be used to guide the activities of various agencies and organizations concerned with water management, land use planning, and watershed protection. For example, the plan will be used by state agencies to direct resources to critical needs so our limited dollars go further toward resolving the most important problems. Projects identified in the plan will be given priority for state grant funding.

Key Concepts from the Cape Cod Watershed Assessment

1. Excess nutrients such as nitrogen and phosphorous from non-point source pollution (septic systems, farms, golf courses, fertilizers, road runoff, marine discharges, wildlife, and atmospheric deposition) are degrading fresh and marine water quality and habitat. These nutrients lead to nuisance algae and plant growth, decreased water clarity and loss of shellfish and fish habitat.
2. Cape Cod has inadequate infrastructure to manage wastewater and this negatively impacts human health and natural resources.
3. The Sagamore groundwater lens has been impacted by activities at the Massachusetts Military Reservation where plumes of contamination have tainted four public water supply wells and threatened fresh and marine waters. Similar instances of smaller scale contamination are a concern for public and private wells throughout Cape Cod.
4. Water supply wells on Outer Cape are experiencing increased occurrences of nitrate levels in private drinking water supplies exceeding federal limits.
5. Available land for development of future water supplies is disappearing as the intensity of land use increases and amount of open space decreases.
6. Excessive groundwater withdrawals for drinking water and irrigation threaten the health and vitality of lakes, ponds, wetlands and rivers by impacting water levels.
7. Sixty beach closings occurred throughout Cape Cod during summer 2001 due to high bacterial counts under the MA Beaches Act.
8. The lack of water quality data on ponds and embayments makes it difficult to get a true understanding of what is impacting the ecosystem and the extent of the impact.
9. Lack of suitable sites for locating new or expanded municipal wastewater treatment facilities is constraining attempts to channel growth into regional growth centers.
10. Continued residential sprawl threatens the marine and freshwater quality of the Cape by increasing non-point source contamination and decreasing the amount of area available for natural attenuation and recharge.

Consult the subwatershed fact sheets contained in the Cape Cod Watershed Assessment Report for priorities for each subwatershed.